

Translation

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference A-348	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/014895	International filing date (day/month/year) 21 November 2003 (21.11.2003)	Priority date (day/month/year) 22 November 2002 (22.11.2002)
International Patent Classification (IPC) or national classification and IPC A23K 1/16, 1/17, C12N 9/42, 9/26, 9/50, 9/20, 9/96, 9/98		
Applicant MELJI SEIKA KAISHA, LTD.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 28 April 2004 (28.04.2004)	Date of completion of this report 25 August 2004 (25.08.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/014895

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/JP 03/14895

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-22	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-22	NO
Industrial applicability (IA)	Claims	1-22	YES
	Claims		NO

### 2. Citations and explanations

Document 1: JP 57-65171 A (Asama Chemical Co., Ltd.), 20 April 1982

Document 2: JP 62-257990 A (Kao Corp.), 10 November 1987

Document 3: JP 60-37983 A (Showa Denko Kabushiki Kaisha), 27 February 1985

Document 4: JP 4-234985 A (Shin Nihon Kagaku Kogyo Kabushiki Kaisha), 24 August 1992

Document 5: JP 2-164044 A (Nippon Soda Co., Ltd.), 22 June 1990

#### Claims 1 to 22

Document 1 (claim 2) discloses a method whereby coated lysozyme preparations for use as food additives are produced by mixing an edible fatty oil with a crystalline lysozyme powder, forming a dispersion of the mixture and thereafter cooling. In addition, document 1 indicates that "the lysozyme is not deactivated even during storage...because the surface of the lysozyme is coated and therefore does not come into direct contact with other substances, even when mixed therewith" (page 3, upper right column), and presents "beef tallow...palm oil...or hydrogenated oils as the edible fatty oil" (page 3, lower left column, lines 6 to 9).

Document 2 (claims) discloses a method for producing

a granulated substance by adding a mixture that comprises an enzyme powder and a water-soluble organic binder to a core material and thereafter granulating by means of a rolling agitation granulator. Therein, document 2 discloses proteases, esterases and carbohydrases as examples of the enzyme (page 2, lower right column) and presents sugar as an example of the core material (page 3, upper right column). In addition, document 2 also indicates that "it is possible to obtain spherical granules that have a narrow particle diameter distribution...because the granules are configured with a spherical form that is obtained by using a single core particle as a core and fixing enzymes to the surface thereof by means of a binder" (page 2, lower left column, lines 5 to 16).

Document 3 (claims) discloses a method for producing particulate enzyme agents by spraying a solution that comprises enzymes and a binder upon the cores for the particulate agent in order to form granules. In addition, document 3 indicates that "there are various methods for the production of spherical enzyme particles; however, the characterizing feature of the present method is that the use of cores...makes it possible to create particulate enzyme agents that are appropriate for use in cleaning agents, food products, medicaments or the like, while also making it possible to drastically decrease the dusting tendency of the particulate agents during handling and to produce particulate agents that exhibit superior flow characteristics" (page 2, upper left column, line 17 to upper right column, line 5).

Document 4 discloses the invention of a method wherein a fatty oil or the like is added to an enzyme source powder that tends to generate dust particles in order to inhibit the generation of dust particles, and presents cellulases, proteases, lipases and the like as

examples of said enzyme (column 1, lines 35 to 37).

Document 5 (claims) discloses the feature of using a preparation that is configured from a mixture of a biologically active substance and a hydrogenated oil as the specimen additive that is used in connection with ruminant animals.

The invention that is set forth in claim 1 of the present application and the invention that is disclosed in document 1 differ in that the invention that is set forth in claim 1 of the present application contains sugar, which serves as the core material, whereas document 1 does not. However, in the light of the disclosures of documents 2 and 3, it would be easy for a person skilled in the art to conceive of employing a core material in the preparations that are disclosed in document 1 in order to equalize the particle diameters and to improve the flow characteristics thereof, thereby facilitating the ease with which the preparations in question can be handled. In addition, in the light of the disclosures of document 2 a person skilled in the art could employ granulated sugar as the core material, as appropriate, and there is not considered to be any prominent effect that would be exhibited by such a configuration.

Consequently, the invention that is set forth in claim 1 of the present application could easily have been configured by a person skilled in the art in the light of the inventions that are disclosed in documents 1 to 3; therefore, the invention in question does not involve an inventive step.

Moreover, in the light of the disclosures of documents 1 to 5, a person skilled in the art could substitute the enzymes that are disclosed in documents 2 to 4 for the lysozymes and could substitute the biologically active substances that are disclosed in document 5 for the enzymes in order to stabilize the

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/JP 03/14895

preparations, and could further add the resulting enzyme preparations to feed for animals, as appropriate. Furthermore, there is not seen to be any significant effect that would result from such configurations.

Consequently, the inventions that are set forth in claims 2 to 22 of the present application could easily have been configured by a person skilled in the art in the light of the inventions that are disclosed in documents 1 to 5; therefore, the inventions in question do not involve an inventive step.